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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/851,465	05/05/1997	EDGAR C. ROBINSON	INT21246	5986

7590 05/23/2006

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EXAMINER	
COCKS, JOSIAH C	

ART UNIT	PAPER NUMBER
3749	

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/851,465	ROBINSON ET AL.	
	Examiner	Art Unit	
	Josiah Cocks	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Receipt of applicant's response filed 3/19/2006 is acknowledged.

Drawings

2. The replacement drawings filed 3/19/2006 are accepted by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,428,406 to Nutten et al. ("Nutten") in view of U.S. Patent No. 3,361,183 to Reichhelm ("Reichhelm") and U.S. Patent No. 4,061,463 to Bennett ("Bennett").

Nutten discloses in Figures 1-32 a liquid fuel burner assembly in the same field of endeavor as applicant's invention and similar to that described in applicant's claims 1-8. In particular, Nutten shows an assembly comprising an air aspirated nozzle (40), a compressor to provide air under positive pressure to the air aspirated nozzle, a zero pressure regulator (60), a fuel supply tank to supply liquid fuel in liquid form and at ambient pressure to the air aspirated nozzle, the fuel entering the nozzle under negative pressure created by air entering the air aspirated nozzle under positive pressure, a manual isolation valve (58), a fuel control valve (110) configured to control liquid fuel supplied to the burner nozzle based on the air flow to the nozzle such that fuel flow is halted in the event of failure of the air flow, and pressure actuated arrangements for controlling flow of liquid fuel to the burner (see col. 9, lines 14-34). Nutten further discloses that air and fuel are mixed within the air aspirated nozzle and combusted within a burner that is immediately adjacent to and downstream of the air-aspirated nozzle (40) (see col. 4, lines 28-42).

Nutten possibly does not disclose a manual metering valve interposed between the liquid fuel supply and air aspirated nozzle which is adjustable during operation of the burner assembly or that the burner is an infrared burner.

Reichhelm teaches a liquid fuel burner in the same field of endeavor as both applicant's invention and Nutten. In Reichhelm, the burner includes manual air control (34) and liquid fuel control (22) valves, wherein during operation of the burner these valves are arranged to

control/meter the fuel flow and the air flow in accordance with desired flame settings (see col. 6, lines 1-4) and to achieve desired characteristics of burner performance (see col. 5, lines 54-57).

In regard to applicant's recitation of an "infrared burner" in the preamble of the claim, this statement is merely one of the intended use of the burner. Applicant's claim does not describe any structure particular to an infrared burner. It has been held that, if the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999); see also MPEP 2111.02. Further, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

In this present case, the burner of Nutten would be capable of operating as an infrared burner. Support for this assertion is found in Bennett, which teaches a liquid fuel burner in the same field of endeavor as Nutten. In Bennett, it is explicitly notes that infrared burners are simply a category of burner that includes the use of a burner (such as that of Nutten) in conjunction with a incandescent surface such that flames produced by the burner are not used for direct heating but are projected against the incandescent surface to radiate heat (see col. 1, lines

10-36 and col. 3, lines 15-18). Accordingly, the recitation of "infrared burner" does not patentably applicant's invention over the Nutten reference.

Therefore, in regard to claims 1-8, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the fuel control valve of Nutten to incorporate the metering/controlling mechanisms of Reichhelm for the desirable purpose of controlling air and fuel ratio such that desired characteristics of burner performance may be achieved (see Reichhelm, col. 5, lines 54-57) and a safety hazard may be prevented from occurring (see Nutten, col. 9, lines 28-34). Further a person of ordinary skill in the art would understand that the burner of Nutten to be capable of functioning as an infrared burner as an infrared burner is understood in the art to be a burner that is capable of projecting flame upon an incandescent surface (see Bennett, col. 1, lines 10-36 and col. 3, lines 15-18). Further, Bennett also teaches that the burner of Nutten would desirably be incorporated in an infrared burner as infrared burners are preferred when using liquid fuel because of their cleanliness and efficiency and because such burners minimize the possibility of flame quenching (see Bennett, col. 3, lines 18-27).

Response to Arguments

6. Applicant's arguments filed 3/19/2006 have been fully considered but they are not persuasive. Applicant appears to primarily reiterate arguments that were presented most recently in the prior response filed 9/9/2005. The examiner maintains the position that applicant's claims do not patentably distinguish over the prior art. In response to these arguments filed 3/19/2006

the examiner incorporates by reference the examiner's responses to applicant's arguments that were set forth by the examiner in the Office action mailed 9/20/2005.

In the response filed 3/19/2006 applicant additionally asserts that the combination of the prior references relied upon the examiner do not define an operable combination. The examiner does not agree. As noted above, the primary reference of Nutten has been relied upon by the examiner to show all the structural limitations of applicant's claims with the exception of a manual metering valve. Applicant does not dispute that Nutten shows that for which it has been cited. Reichhelm has been identified by the examiner to show a liquid fuel burner in the same field of endeavor as applicant's invention and Nutten and is thus properly considered to be analogous art. Reichhelm clearly provides an unambiguous teaching of the presence of a single manual metering valve in a liquid fuel burner that is disposed between the liquid fuel supply and the nozzle and that functions, as one would expect, to control the flow of fuel to the nozzle. Applicant does not provide any persuasive argument as to why a person of ordinary skill in the art would not readily understand that such a manual control valve would function for its clear purpose of controlling the liquid fuel to a nozzle in an analogous liquid fuel burner such that of Nutten. Accordingly, applicant's assertions to the contrary are not persuasive.

Applicant has also again argued that the references do not disclose a single valve for controlling liquid fuel. However, the examiner notes that Reichhelm clearly does disclose such a valve. Applicant's position that applicant's claims should be considered to distinguish over a burner that also discloses a separate air control valve has been fully addressed in the prior Office action (Office action mailed 9/20/2005). Once again the examiner notes that applicant's claim terminology clearly does not render the scope of the claim to be limited to a single valve to the

exclusion of other structures, such as, among other things, an additional air metering valve disposed in the air supply line.

Applicant also argues that because Bennett teaches pre-mixture of air and fuel upstream of the nozzle that this reference is not properly combined with Nutten. However, as noted above Bennett has been cited solely to support the assertion that a person of ordinary skill in the art would understand that a burner, such as that of Nutten, is readily incorporated in a infrared assembly. Accordingly, the burner of Nutten would properly be capable of functioning as a "infrared burner" as appears in applicant's preamble. Therefore, this recitation in the preamble does not structurally distinguish applicant's invention.

Accordingly, applicant's claims 1-8 do not patentably distinguish applicant's invention over the prior art of record.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on weekdays from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at (571) 272-4828. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcc
May 15, 2006

JOSIAH COCKS
PRIMARY EXAMINER
ART UNIT 3749